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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,932	02/17/2004	Kun-Hong Chen	250122-1220	1914

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EXAMINER

CHU, CHRIS C

ART UNIT PAPER NUMBER

2815

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,932

Applicant(s)

CHEN, KUN-HONG

Examiner

Chris C. Chu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in the reply filed on January 21, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 8 are rejected under 35 U.S.C. 102(b) as being anticipated by the acknowledged prior art of Figs. 1 – 2E.

Regarding claim 1, the acknowledged prior art discloses in e.g., Fig. 2E an interconnect structure, comprising:

- a substrate (100; page 2, line 15);
- a first metal line (110; page 2, line 12) disposed on the substrate;
- a first insulating layer (120; page 2, line 28) disposed on the substrate, covering the first metal line (see Fig. 2E);
- a second metal line (130; page 2, line 13) disposed on the first insulating layer;

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- a second insulating layer (140; page 3, line 4) covering the second metal line;
- ITO (indium tin oxide 162; page 2, line 17) wiring electrically connecting the first and second metal lines (see Fig. 2E); and
- a passivation structure (151 and 152; page 2, lines 17 and 18) disposed on the second insulating layer with an opening (at the opening between the elements 151 and 152) therein to expose and enclose the ITO wiring (see Fig. 2E).

Regarding claim 2, the acknowledged prior art discloses in e.g., Fig. 2E the substrate (100) being a TFT-array substrate (page 2, line 15) for a flat display panel (page 1, line 7).

Regarding claim 3, the acknowledged prior art discloses in e.g., Fig. 2E the first (110) and second (130) metal lines, the ITO wiring (162) and the passivation structure (151 and 152) being disposed in a non-display area of the TFT-array substrate (page 2, lines 6 and 7).

Regarding claim 4, the acknowledged prior art discloses in e.g., Fig. 2E the first metal line (110) being a gate metal line formed simultaneously with gate metal lines in a display area of the TFT-array substrate (page 2, lines 25 – 27).

Regarding claim 5, the acknowledged prior art discloses in e.g., Fig. 2E the second metal line (130) being a source/drain metal line that is formed simultaneously with source/drain metal lines on a display area of the TFT-array substrate (page 3, lines 1 – 4).

Regarding claim 6, the acknowledged prior art discloses in e.g., Fig. 2E the ITO wiring (162) comprising a first ITO electrode disposed in the first and second insulating layers (120 and 140) in contact with the first metal line (110), a second ITO electrode disposed in the second insulating layer (140) in contact with the second metal line (130), and an ITO layer (162) connecting the first and second ITO electrodes (see Fig. 2E).

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Regarding claim 7, the acknowledged prior art discloses in e.g., Fig. 2C the thickness of the passivation structure (151 and 152) being between 3 and 4 μ m (3.5 μ m; page 3, lines 29 and 130).

Regarding claim 8, the acknowledged prior art discloses in e.g., Fig. 1 the opening (at the opening between the elements 151 and 152) in the passivation structure (151 and 152) being rectangular (since the opening area between the elements 151 and 152 in Fig. 1 has a rectangular shape, the opening area is rectangular).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tanaka et al., Ohori et al., Huang et al. and Yamazaki et al. disclose a ITO wiring in a liquid crystal electrooptical device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris C. Chu whose telephone number is 571-272-1724. The examiner can normally be reached on 11:30 - 8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 517-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

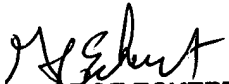
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chris C. Chu
Examiner
Art Unit 2815

c.c.
Friday, April 01, 2005


GEORGE ECKERT
PRIMARY EXAMINER